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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,272

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EXAMINER

LERNER, MARTIN

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

10/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,272

Applicant(s)

CHEVALLIER ET AL.

Examiner

Martin Lerner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 to 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it should be one paragraph only. Correction is required. See MPEP § 608.01(b).
2. The disclosure is objected to because of the following informalities:
 - On page 1, line 15, "CDS" should be "CDs".
 - On page 6, lines 34 to 35 are not a grammatical sentence.
 - On page 7, line 2, "preamble" is not idiomatic.
 - On page 8, line 7, "dimension" should be "dimensions".
 - On page 9, line 37, "this have" is not idiomatic.
 - On page 11, line 30, a new sentence should be started after "dimensions".
 - On page 12, line 35, "Figure 7" should be "Figure 6".
 - On page 13, lines 1 to 3 are not idiomatic.
 - On page 13, line 1, should "angle" be "angle decreases"?Appropriate correction is required.

Information Disclosure Statement

3. The Specification cites Prior Art on Page 2, Lines 11 to 27; Page 7, Lines 24 to 26; and Page 8, Lines 14 to 16. The cited prior art is not readily available to the U.S.

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Patent Office, but may be relevant to examination. Applicants are requested to provide copies of the cited prior art.

Claim Objections

4. Claim 7 is objected to because of the following informalities:

The phrase "the predetermined order of reproduction" lacks antecedent basis. Claim 7 depends upon claim 4, but there is no antecedent basis for "the predetermined order of reproduction" in claim 4. Claim 7 should depend upon claim 3, and is so treated for purposes of examination

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 11 to 13, 19, and 21 to 22 are rejected under 35 U.S.C. 102(b) as being anticipated by *Okada (JP '575)*.

Regarding independent claims 1 and 13, *Okada (JP '575)* discloses a method and apparatus for audio reproduction, comprising:

"a means of calculation for partitioning documents into groups of documents possessing at least one similar audio characteristic" – sound information may be divided

into several groups beforehand ¶[0028]; for ISF insect pictures, a virtual space contains sounds, and the sources are sound data arranged to mimic “insects in the meadow” and “birds in the forest” ¶[0026]; broadly, sound data of “insects in the meadow” and “birds in the forest” are “audio documents”, where insects possess a first similar audio characteristic and birds possess a second similar audio characteristic;

“a means of determination of at least one document representing each group” – when a user is outside a certain group, the representative sound of the group can be heard as the sound image at the center of gravity of the group ¶[0028]; thus, there is a representative sound of the group for when the user is outside the group;

“a means of calculation of positioning data associated with each document in a space, the data being determined by at least one characteristic specific to the document, a positioning datum also being assigned to the position of the user within the space” – sound information belonging to a certain group is positioned in a range up to a certain position in the virtual sound space ¶[0028]; the user can walk in the virtual sound space to get the information ¶[0026]; four parameters (“at least one characteristic”) pertain to the sound image positioning, including volume, panning, reverberation, and filtering ¶[0049] – ¶[0055]; a position of the user is changed by movement of a mouse interface part ¶[0059];

“a means of selection of at least one document representing a group, the selected document or documents having a position situated at a distance less than a determined distance with respect to the position of the user in the space” – only when a user enters a group can a sound be generated with individual sounds in the group

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having respective sound image position; when a user approaches from outside the group, the user can hear a chorus of chirps from the cicadas; then, once the user enters the group, the user can hear individual cicadas chirping ¶[0028] – ¶[0029]; volume is inversely proportional to the square of the distance between the user and the source object ¶[0050]; when the user is inside the group, this corresponds to “having a position situated at a distance less than a determined distance with respect to the user in the space”;

“a means of reproduction of at least one identifier of at least one document representing a group” – a virtual sound field and a visualizing means may be combined to improve the user’s on-site sensation, and to facilitate his making an appropriate selection of the desired sound; by using a plurality of visualizing means at the same time, it is possible to move toward the desired sound source, so as to narrow down the desired sound source ¶[0038] – ¶[0039]: Figures 6, 7, and 10; when the user enters the group, each sound can be generated with individual sounds ¶[0028]; thus, “reproduction of at least one identifier” involves visualizing the sound sources on a display or generating a representative sound when the user is outside the group.

Regarding claims 11, 12, 21, and 22, *Okada (JP ‘575)* discloses a virtual sound field and a visualizing means may be combined to improve the user’s on-site sensation, and to facilitate his making an appropriate selection of the desired sound; by using a plurality of visualizing means at the same time, it is possible to move toward the desired sound source, so as to narrow down the desired sound source ¶[0038] – ¶[0039]:

Figures 6, 7, and 10; when the user enters the group, each sound can be generated with individual sounds ¶[0028]; thus, reproduction of the identifier can either be a display (“of graphical nature”) of the sound field or the sound reproduction itself.

Regarding claim 19, *Okada (JP '575)* discloses a representative sound of a group can be heard as the sound image position at the center of gravity of the group ¶[0028]; a center of gravity is “close to an average of the values” of the position of the elements of the group; the volume is inversely proportional to the square of the distance between the user and the source object ¶[0050]; thus, implicitly, the volume, which is one of the “audio characteristics”, is an average value reflecting the average position of a representative sound of the group at the center of gravity.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Okada (JP '575)* in view of *Hinde ('794)*.

Okada (JP '575) discloses positioning sound sources in a virtual space, where a user can walk in the virtual space to get sound information, but omits introducing commands for navigating group wise, so that each command activates a reproduction of at least one identifier representing the graphically emphasized group. However, *Hinde*

('794) teaches an audio user interface, where one embodiment involves organizing service sound sources at a number of discrete heights, corresponding to four "floors". Each floor contains sound sources associated with services of the same type with different floors being associated with different service types. A user can command step changes in height correspond to moving from floor to floor. Advisory sound sources 60, 61 provide a summary of the services available above and below a current focus zone. (Column 12, Lines 38 to 54: Figure 8) Thus, a user command to move from floor to floor is equivalent to "introducing commands for navigating group wise", which reproduces the service sound sources on that floor. An objective is to provide an audio field associated with a computer game or artificial environment having varying degrees of user immersion to facilitate user selection of resources. (Column 3, Lines 16 to 32) It would have been obvious to one having ordinary skill in the art to provide group wise activation of commands for reproduction of sound sources as taught by *Hinde* ('794) in a method and apparatus for virtual sound field visualization of *Okada* (JP '575) for a purpose of providing an artificial environment to facilitate user selection of resources.

9. Claims 3 to 10, 15 to 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Okada* (JP '575) in view of *Foote et al.*

Concerning claims 3 and 15, *Okada* (JP '575) discloses that the sounds are reproduced as the user moves through the sound field, but does not expressly disclose the sounds being reproduced in a predetermined order. However, *Foote et al.* teaches a method and system for retrieving and sequencing music by rhythmic similarity, where

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songs are sequenced to maximize the similarity between adjacent files. The selected songs are ordered so that the sum of inter-song distances is a minimum. ¶[0095] – ¶[0100] The objective is to minimize the beat spectral difference between successive songs so that song transitions are not jarring. ¶[0098] Music is classified into genres, and a user may search for music with a similar rhythmic structure to reproduce. ¶[0104] – ¶[0107] It would have been obvious to one having ordinary skill in the art to provide a command to activate reproduction of audio documents in a predetermined order as taught by *Foot et al.* in a method and apparatus for virtual sound field visualization of *Okada (JP '575)* for a purpose of minimizing jarring transitions between songs.

Concerning claims 4 to 6 and 16 to 17, *Foot et al.* teaches classification of music into genres by beat spectra of music, representing the musical work by Fourier coefficients in a vector space. ¶[0105] The Fourier coefficients are a “number of audio parameters”, and the vector space has a number of dimensions equal to the number of audio parameters, or coefficients. A determination of whether a musical work belongs to a class or genre of blues, classical, dance, jazz, pop, rock, or rap depends upon a distance measure. ¶[0099] – ¶[0100]; ¶[0105] – ¶[0107] *Okada (JP '575)* discloses dividing sound information into groups beforehand, where a representative sound of a group is heard as the sound image position at the center of gravity of the group. ¶[0028] A center of gravity is equivalent to the “equibarycentre of the points of the documents of the group”.

Concerning claims 7, 9, 18, and 20, *Foot et al.* teaches ordering selected songs so that the sum of the inter-song distances is a minimum. ¶[0100] A template of works

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with a particular rhythm and sequence is created, so that an algorithm can automatically sequence a larger collection of music according to the similarity template. Fast songs are sequenced at the beginning, moderate songs in the middle, and progressively slower songs at the end as time passes. ¶[0103]

Concerning claims 8 and 10, *Foote et al.* teaches classifying source audio into genre of music by coefficients in a vector space. ¶[0105] Thus, source audio is classified, or partitioned, into genres by average characteristics of the beat spectra.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Chevallier et al. ('994) and Chevallier et al. ('064) disclose related art.

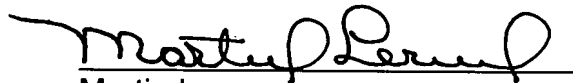
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML
10/22/07


Martin Lerner
Examiner
Group Art Unit 2626